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Deterrent Factors in Urban Farming Participation

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Abstract

Urban farming is the practice of cultivating, processing, and distributing food in or around urban areas. Urban farming is a relatively new trend in Malaysia and has increased in recent years. As urban farming remains to be promoted by municipal governments and others, it is essential to understand how to ensure these projects are viable. This study was conducted to identify the deterrent factors that hinder the "community buy-in" in the urban farming projects and how to overcome the problem so that "community buy-in" in the urban farming project will be achieved and sustain in the future.

Keywords: Urban Farming; Deterrent Factors; Participation; Community Buy-In

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1.0 Introduction

Growing food in the cities is not a new concept worldwide. There are various terms related to agriculture in urban areas such as urban agriculture, urban community garden, and urban farming. Urban farming was introduced as a promising alternative to address the problems of high living cost, urban poverty, food security (Rezai et al., 2016) quality of the environment (Salim et al., 2019) urban waste management (Ramalingam et al., 2018) and limited spaces for agriculture (Giedych, 2015). Malaysian government made a step to develop an urban farming concept, thus making this an opportunity for the urban community to take part in the programme that will secure food consumption. Urban farming in Malaysia is supported by the Local Agenda 21 (LA21), which promotes sustainable development by generating and strengthening involvement among local authorities, communities, and private agencies (Othman et al., 2019). As a multi-racial country, the urban farming program is also critical in encouraging the spirit of unity and neighbourhood among the plural community in Malaysia as well as contributing to the human well-being (Abdul Rahman, 2018). However, despite the efforts by the government, there is a lack of awareness and participation from the community (Mohd Hussain et al., 2017; Yusoff et al., 2017; Islam & Siwar, 2012; Kaur & Hitam, 2010). Unlike other countries like Australia and Thailand, Malaysia has a long way to go before people fully embrace urban farming as a necessity and not just a trend (Othman et al., 2017). Hence, urban farming projects are most likely to survive and thrive if they have local support, but the question is, how can these projects gain community buy-in? Community buy-in refers to acceptance and support by a particular neighbourhood or community of people for a decision or plan. Gaining the buy-in of communities for a specific program or project is generally recognized as necessary for its success and survival (Poulsen et al.,

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2014). Previous studies in other countries have shown that community buy-in is one of the motivating factors that contributed to the success of urban farming engagement (Poulsen et al., 2016). However, there is no similar study in Malaysia to address “community buy-in” concerning urban farming. Thus, this study is undertaken with these objectives: (1) to identify the barriers that hinder the “community buy-in” in the urban farming project, (2) to determine the factors that contributed to barriers in “community buy-in” in urban farming projects, (3) to recommend initiatives to overcome the barriers in achieving community buy-in for urban farming projects. Based on the findings, the action will be recommended to overcome the obstacles

2.0 Literature Review

There were many studies related to urban farming or urban agriculture that gave different meanings, roles, and opinions based on their research understanding. In Malaysia, farming is conventionally understood as the vegetable and fruit crop planting practiced by smallholders in rural areas (Othman et al., 2018). A study was conducted by DiDomenica & Gordon (2016) in Northeastern; United States city found that urban farm as a secondary food source based on its variety in food production. However, urban farming in the Malaysian context is described as the practice of planting, processing, and dissemination of agricultural products in the city and surrounding areas, whether using natural resources and recycled waste in the crops production and livestock diversity and for recreation and relaxing (DOA, 2016). Other studies show that urban farming or urban agriculture refers to a farming activity in urban areas, which generally used to generate income, food production (Salim et al., 2019) and built the environment of the city (Cameira et al., 2014). Urban farming also is seen as a sustainable practice with the social, economic, and urban environment benefits (Othman et al., 2018). According to Tsyplakova et al. (2020), the purposes of urban farming is not restricted to maximizing the supply of environmentally friendly food products based on the efficient use of accessible surfaces, but it also acts as farmland preservation within the city limits.

In Malaysia, even though the term "Urban Farming" is new and increasingly popular for the past two years, but in terms of policies and implementations, it can be traced back to 1974. It started when the *Rancangan Buku Hijau* was introduced by the second Prime Minister and the introduction of *Program Bumi Hijau* by former Prime Minister Tun Abdullah Ahmad Badawi in 2005 under Food Security Policy (Othman et al., 2017). Although numerous studies have discovered about community urban farming activities profits from the viewpoint of global urban, there are still insufficient studies regarding urban farming that have conducted in Malaysia (Ramaloo et al., 2018; Islam & Siwar 2012; Kaur & Hitam 2010). Based on previous research, many studies have focused on the potential and benefits of the development and implementation of urban farming. The challenges in project development and implementation, goals, finance, equipment, and sponsorship are not getting more attention as some of the problems encountered in urban farming development (Islam & Siwar, 2012; Rezai et al., 2016; Zainal & Hamzah, 2018; Tajuddin et al., 2019). The success rate of this project is still considered low, and sustaining participation in urban farming activities need to be addressed by the local authorities. According to Othman et al. (2018) some factors that contributed to lack of motivation in urban farming activities were awareness, knowledge and physical provision.

3.0 Methodology

This study sought to determine the deterrent factors or barriers that hinder the community buy-in in urban farming participation. The qualitative and quantitative approach was implemented to gain data. The study area is in Shah Alam Selangor. The information which covers aspects of types of land use, horticulture practices, practitioners' motivation, and municipal regulation that influence participation motivation in urban farming was sought through literature reviews and secondary data from the local authority. To gain information on the existing urban farming activities, community leaders, the decision-makers, and the responsible agencies were interviewed. In eliciting the quantitative data, the survey was conducted to get feedback from the urban communities that are not involved in urban farming activities. The respondents involved were those who volunteered to take part in the survey. The first part of the survey consists of demographic variables and the second part consists of items categorized into five factors related to reasons for not participating in urban farming was gathered. A five-point Likert Scale was used; 1- strongly disagree, 2-disagree, 3-moderate, 4- agree, 5-strongly agree. The survey appraised the urban community condition, motivation, and barriers that hinder community acceptance with regards to urban farming involvement. The data analysis was done using Statistical Package for Social Sciences. Descriptive data analysis and content analysis were carried out to obtain the findings. The data collection is limited to residents in Shah Alam who are not involved in urban farming activities, and the sampling is based on voluntary basis.

4.0 Findings and Discussion

This topic discussed the survey's findings of socio-demographic characteristics, the deterrent factors to participating in urban farming, and also the respondent's suggestions to attract the interest of the community in urban farming.

4.1 Socio-demographic Characteristic

The respondent's demographic characteristic is shown in Table 1. The total respondents who participated in this survey were 210 peoples. The frequency of respondents based on gender shows that female respondents are the highest, with 130 (61.9%) respondents, while males with 80 (38.1%) respondents. Demographic survey based on age shows that age of 20 years and below is 4.3%, age between 21-30 years is 55.7% which is the highest, between 31-40 years is 33.3%, between 41-50 years is 4.8%, and lastly, age between 51-60 years is 1.9% which is the lowest and the oldest. Marital status shows that most of the respondents are single, with 111 (52.9%) respondents, and others with 98 (46.7%) respondents are married, and 1 (0.5%) respondent is a widow. The highest race

participated in this survey are Malays with 186 respondents (88.6%), followed by Chinese with 22 respondents (10.5%), and the lowest is Indian, with only 2 (1.0%) respondents.

The demographic result is based on the education level shows that the Bachelor's Degree holder is the highest with 100 respondents, which are 47.6%. The second highest is STPM/Matriculation/Diploma with 60 (28.6%), followed by SPM 31 (14.8%), Master with 10 (4.8%), PMR/SRP with 8 (3.8%), and the lowest number is PhD with 1 (0.5%). The highest result of respondent's occupation is working in the private sector with 107 (51%), second highest is working in public sector 52 (24.8%), third is the student with 38 (18.1%), followed by a housewife with 10 (4.8%) and lastly was business with 3 (1.4%) respondents. The monthly household incomes show that income between RM2001-RM4000 is the highest result with 95 (45.3%), next is below RM2000 with 83 (39.5%), RM4001-RM6000 with 30 (14.3) and lastly RM6001-RM RM8000 with 2 (1.0%). Based on the survey, respondents live in three types of houses, and the majority are terrace houses with 182 (86.7%), the second is apartment/condominium with 16 (7.6%), and the lowest is flat/quarters with 12 (5.7%). The distance of the respondent's house from the garden is also recorded in this survey. The result shows that 148 (70.5%) of the respondent's houses located less than 300 meters from the garden, next was 301-600 meters with 44 (21.0%), 601-900 meters with 8 (3.8%) and lastly more than 900 meters with 10 (4.8%)

Table 1. Respondent's Demographic Characteristic

Items	f	Percentage (%)
<i>Gender</i>		
Male	80	38.1
Female	130	61.9
<i>Age</i>		
<20	9	4.3
21-30	117	55.7
31-40	70	33.3
41-50	10	4.8
51-60	4	1.9
>60	0	0
<i>Marital Status</i>		
Single	111	52.9
Married	98	46.7
Widow	1	0.5
<i>Race</i>		
Malay	186	88.6
Chinese	22	10.5
Indian	2	1.0
<i>Education Level</i>		
PMR/SRP	8	3.8
SPM	31	14.8
STPM/Matriculation/Diploma	60	28.6
Bachelor Degree	100	47.6
Masters	10	4.8
PhD	1	0.5
<i>Job Sector</i>		
Public Sector	52	24.8
Private Sector	107	51.0
Student	38	18.1
Business	3	1.4
Housewife	10	4.8
Retired	0	0
<i>Household Income</i>		
<RM2000	83	39.5
RM2001-RM4000	95	45.2
RM4001-RM6000	30	14.3
RM6001-RM8000	2	1.0
>RM8000	0	0
<i>Types of House</i>		
Terrace	182	86.7
Apartment/Condominium	16	7.6
Flat/Quarters	12	5.7
<i>The distance of House from Garden</i>		
<300 metres	148	70.5
301-600 metres	44	21.0
601-900 metres	8	3.8
>900 metres	10	4.8

(Source: Author)

4.2 Deterrent Factors to Participating in Urban Farming

Table 2 shows the deterrent factors for participating in urban farming. Deterrent factors in urban farming participation in this study are divided into five categories, which are time, knowledge, economy, social, and lastly, land, and environment. Based on the result, the first ranking factor with the highest total mean is the land and environment (total mean=3.37). Followed by time factor (total mean=3.35)

at the second-ranking, knowledge factor (total mean=3.20) third-ranking, social factor (total mean=3.07) at the fourth-ranking and the last ranking with lowest total mean is an economy factor (total mean=2.70). The land and environment factor, the highest mean, is for the statement of "limited space of land for cultivation" with the mean result of (mean=3.69). The time factor shows that "time constraints" are the highest mean, which is (mean=4.01). The third factor, which is knowledge found that statement for "preferably to buy vegetables and fruits at the supermarket," is the highest (mean=3.48). Next is the social factor; item "lack of activity from community organization" obtained the highest mean (mean=3.25). The last factor, which is the economy, shows that item "does not have financial support to buy the needs of soil, fertilizers and agricultural tools," obtained the highest (mean=2.83). Based on the mean values, economy can be considered as not an influential factor in deterring the farming participation. Meanwhile, the Cronbach's Alpha values show all the results are in a good reliability level. The values are from 0.80 to 0.91.

Table 2: Deterrent Factors in Urban Farming Participation

Items	Mean*	Total mean	Rank	Cronbach's Alpha
Time				
Time constraints.	4.01			
Time widely used to do office work.	3.51			
Time widely used to take care of children at home.	2.70	3.35	2	0.80
Preferably spend time doing activities at home.	3.65			
Not interested in farming activities.	2.64			
Weekends are used to spend time with family.	3.58			
Knowledge				
Lack of knowledge in farming activities.	3.21			
Did not have any tools for cultivation.	3.09	3.20	3	0.84
No basic knowledge to start planting.	3.01			
Preferably to buy vegetables and fruits at the supermarket.	3.48			
Economy				
Does not have capital advance.	2.79			
Inadequate finance for farming activities.	2.68	2.70	5	0.90
Does not have financial support to buy the needs of the soil, fertilizers, and agricultural tools.	2.83			
Food wastage in case of excessive food production.	2.52			
Social				
Lack of activity from Community Organization.	3.25			
Lack of social contribution in the neighbourhood.	3.15			
The gap of relations between neighbourhood communities.	3.12	3.07	4	0.87
No friends to accompany to do farming activities.	3.02			
No friends contact in the neighbourhood area.	2.82			
Land and environment				
Limited space of land for cultivation.	3.69			
Does not have space for cultivation in the neighbourhood area.	3.64			
There are no suitable lands for agricultural activity.	3.40	3.37	1	0.91
Create issues of risk such as the spread of diseases (dengue and leptospirosis)	3.09			
Uninteresting environment, full of bushes.	3.05			

*Rating scale is 1= Strongly disagree, 2=Disagree, 3=Moderate, 4=Agree, 5=Strongly agree. The score indicates the mean score for each item.

(Source: Author)

4.3 Suggestion to Attract Interest of Community in Urban Farming

Table 3 shows the suggestion to attract the interest of the community in urban farming. These suggestions are also essential to determine the need to invite the community to participate in urban farming. Based on the survey, the mean result shows that (C3), which is "implemented the design and planning in the garden to enhance the image and aesthetic value of neighbourhood" is the highest-ranking with the mean result of 4.51. Followed by C4 at the second-ranking (mean=4.43), C7 at the third-ranking (mean=4.29), C1 at the fourth-ranking (mean=4.26), at the fifth ranking is C6 (mean=4.12), at the sixth ranking is C2 with the mean result of 4.11. Lastly, the lowest ranking with the mean result of 4.06 is (C5) is "making a relationship with community leaders or groups that can share the idea for the existing garden."

Table 3: Suggestion to Attract Interest of Community in Urban Farming

No	Item	Mean	Rank
C1	Looking deeper into the beneficial impact of urban farming in order to create knowledge and values for the urban dwellers.	4.26	4
C2	Creation of more interactive on-line extension services to support the urban farming movement.	4.11	6
C3	Implemented the design and planning in the garden to enhance the image and aesthetic value of neighbourhood.	4.51	1
C4	Create more linkages and cooperation with local and international agencies, which can increase more funding for urban farming activity.	4.43	2
C5	Making a relationship with community leaders or groups that can share the idea for the existing garden.	4.06	7
C6	Maintain and beautify the current garden areas to meet residents' expectations for neighbourhoods' appearance.	4.12	5
C7	Create a welcoming environment in the existing garden area to attract attention to other residents in the neighbourhood.	4.29	3

(Source: Author)

5.0 Discussion

Rapid urbanization reduces land spaces. Land and environment ranked top in this study as the most deterrent factor. The main reason for the "land and environment" is the limited space of land for cultivation. According to Mat & Abdul Majid (2015), in their study at Kulim, Kedah, lack of vacant land for agricultural activities is a significant obstacle in urban areas because of land-use competition for other development. Usually, agricultural activities will be pushed to the suburbs. The public always thinks that urban farming needs a significant land area. However, urban farming can perform in limited areas such as abandon space, corner or small space, including a rooftop in a home or shop (Abdul Rahman, 2018) and also small yard (Van Tuijl, 2018). Various effective systems such as aeroponic, hydroponic, and also fertigation can be developed in a limited space. This shows that not all urban farming needs big space. It can be done in a small space using planter boxes or pots. The time factor is always a deterrent factor in any activities as well as in this study. In this study, the second-highest deterrent factor is time. The "time constraint" is the highest mean value among the items. Working in the urban area always faced with the hustle-bustle of urban life. People always focused on gaining money and sometimes making more than one job. They tend to have less time, even for themselves and their family. This study shows proof that many of them have limited or no time to do farming. Even though urban farming has many benefits and advantages, these results did not concur with previous research. Previous research by Abdul Rahman (2018) shows that several issues in urban farming need to give more attention, including limited space and its occupants who are busy with daily activities. This statement is closely related to what the researcher found in this study. The next factor is the knowledge that obtained high mean results. Prefer to buy vegetables and fruit at the supermarket is the main reason. Lack of knowledge on urban farming will discourage the public from participating in the program. Besides that, knowledge is required by urban farmers to increase agricultural production and contribute to urban food security (Zainal & Hamzah, 2017). Occasionally, the respondents find gardening is demanding, requiring intensive care, high cost, and taking much time. They prefer to buy vegetables and fruits at the supermarket without realizing that this contributes to the increase in the cost of living in the urban. Awareness towards urban farming, with sufficient knowledge and encouragement from the community, will motivate participation in urban farming activities. To add further, urban farming can reduce the cost of living. Previous studies also show that knowledge can influence farmers towards agriculture development (Aziz Masso & Man, 2016; Zainal & Hamzah, 2017).

6.0 Conclusion and Recommendation

The top three of most deterrent factors in this study were determined. Factor "land and the environments" is the main deterrent factor that hinder the "community buy-in" in urban farming projects. Followed by the "time factor" where item time constraint is the main deterrent reason why the community is not interested in the urban farming project. The third factor is "knowledge factor." In order to increase participation in the urban farming program, there are several suggestions given by respondents that need consideration, including implementing the design and planning in the garden to enhance the image and aesthetic value of the neighbourhood. Creating more linkages and cooperation with local and international agencies is another important factor in increasing more funding for urban farming activity. This study can be a source of reference to understand deterrent factors in making initiatives towards embarking and sustaining urban farming participation in the future.

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References

- Abdul Rahman, H. (2018). Amalan dan Kepentingan Pertanian Bandar di Malaysia. *Prosiding Seminar Antarabangsa Arkeologi, Sejarah, Bahasa dan Budaya di Alam Melayu (ASBAM) Ke-7*
- Aziz Masso, W.Y., & Man, N., (2016). Identify the Knowledge Level of Rural Leaders towards Paddy Farming Technologies in Muda Agriculture Development Authority (MADA-MALAYSIA). *Indian Journal of Science and Technology*. 9(15):0974-5645.
- Cameira, M. R., Tedesco, S., & Leitao, T. E. (2014). Water and nitrogen budgets under different production systems in Lisbon urban farming. *Biosystems engineering*, 125, 65-79.
- Department of Agriculture (2016). *Kuala Lumpur. Department of Agriculture (DOA)*. Retrieved from www.doa.gov.my.
- DiDomenica, B., & Gordon, M. (2016). Food Policy: Urban Farming as a Supplemental Food Source. *Journal of Social Change* 2016, Volume 8, Issue 1, Pages 1–13 ©Walden University, LLC, Minneapolis, MN DOI: 10.5590/JOSC.2016.08.1.01
- Islam, R., & Siwar, C. (2012). The Analysis of Urban Agriculture Development in Malaysia. *Advances in Environmental Biology*, 6(3), 1068–1078.
- Kaur, H., & Hitam, M. (2010). Sustainable living: an overview from the Malaysian perspective. In L. L. Fook, C. Gang (Eds.), *Towards a liveable and sustainable urban environment: eco-cities in East Asia*, p. 159-178. Singapore: World Scientific.
- Mat, R., & Abdul Majid, A. (2015). *International Journal of Environment, Society and Space*, 2015, 3(1), 44-56

- Mohd Hussain, M.R., Yusoff, N.H. & Tukiman, I. (2017). Urban Farming and its Importance for Environmental Sustainability. In: *Proceedings of Academics World 76th International Conference*, Kuala Lumpur, Malaysia, 3rd August, 2017.
- Othman, N., Latip, R.A., & Ariffin, M.H. (2019). Motivations for Sustaining Urban Farming Participation. *International Journal of Agricultural Resources, Governance and Ecology*. 15. 45. 10.1504/IJARGE.2019.10021353.
- Othman, N., Latip, R.A., Ariffin, M.H. & Mohamed, N (2018) Community Expectancy in Urban Farming Participation. *Asian Journal of Quality of Life (AjQoL)*, 3(13) Sep/Oct 2018 (p.8-17).
- Othman, N., Latip, R.A., Ariffin, M.H. & Mohamed, N. (2017). Expectancy in urban farming engagement. *Environment-Behaviour Proceedings Journal* 2(6).
- Poulsen, M. N., Spiker, M. L., & Winch, P.J., (2014). Conceptualizing Community Buy-in and its Application to Urban Farming. *Journal of Agriculture, Food System, and Community Development*, 5(1): 161-178.
- Ramalingam, L., Sharifuddin, J., Ali, F., & Mohamed, Z. (2018). Community Garden Programme: An Analysis of Volunteers' Motivations and Age Groups. *Journal of Humanities and Social Sciences*. 23. 48-53. 10.9790/0837-2306014853.
- Ramalloo, P., Liong, C., Siwar, C., Isahak, A. (2018). Perception of Community Residents on Supporting Urban Agriculture in Malaysian City: Case Study at Bukit Mertajam. *Jurnal Pengurusan* 53(2018) 83 – 91. <https://doi.org/10.17576/pengurusan-2018-53-08>
- Rezai, G., Shamsudin M.N., & Mohamed Z. (2016). Urban agriculture: a way forward to food and nutrition security in Malaysia. *Procedia-Social and Behavioral Sciences*, 216, 39-45
- Salim, S.A., Alaa, M., Mohammad Yusof, Z., Md Ibhahir, L., Salim, S.H., & Hashim., F. (2019). Urban Farming Activities in Southeast Asia: A Review and Future Research Direction. *MATEC Web of Conferences* 266, 02010 (2019).
- Tajuddin, Z., Md Sum, S., Mohd Zainol, R., & Jusoh, H. (2019). Penentu Sosial Penglibatan Komuniti dalam Projek Kebun Komuniti Bandar. *Sarjana* Vol. 34, No. 1, June 2019, pp. 56-68
- Tsyplakova, E., Cheryapina, A., Sinko, G., Yankevich, Y. & Afanasiev, K. (2020). Urban farming as a form of innovative entrepreneurship in a digital economy. *IOP Conference Series: Earth and Environmental Science*. 421. 032033. 10.1088/1755-1315/421/3/032033.
- Yusoff, N.H., Hussain, M.R.M. and Tukiman, I. (2017) 'Role of community towards urban farming activities', *Journal of the Malaysian Institute of Planners*, Vol. 15, No. 1, pp.271–278.
- Zainal, M. & Hamzah, S.R. (2018). Urban Agriculture: The Role of Knowledge among Farmer in Malaysia. *International Journal of Academic Research in Business and Social Sciences*. 7(14): 77–85.
- Van Tuijl, E., Hospers, G., & Van Den Berg, L. (2018). Opportunities and Challenges of Urban Agriculture for Sustainable City Development. *European Spatial Research and Policy, Sciendo*, vol. 25(2), pages 5-22, December.